Docket No. 1568.1015 Inventor: Hyung-gon NOH

ABSTRACT

A lithium battery including an electrode assembly having a cathode, an anode, a separator interposed between the cathode and the anode, a gel electrolyte prepared by dissolving a terpolymer having a repeating unit represented by formula (1), a repeating unit represented by formula (2) and a repeating unit represented by formula (3) in an organic solvent having a low boiling point, mixing a lithium salt and organic solvent therewith to obtain a composition for forming an electrolyte, injecting the composition into a case accommodating the electrode assembly or coating on at least one of the cathode, the anode and the separator, and then removing the low boiling point organic solvent from the resultant structure, and the pouch accommodating the electrode assembly and the gel electrolyte:

Formula 2

Formula 3

wherein n is an integer from 1 to 12 and R is an alkyl having 1 to 12 carbon atoms. The lithium battery, which can prevent the reliability and safety of the battery from lowering, can be attained by using a gel electrolyte by which a swelling phenomenon due to an electrolytic solution can be effectively suppressed and leakage of the electrolytic solution can be prevented.